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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,643	02/21/2002	You Kondoh	10004099-2	8165

7590 06.04.2003

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EXAMINER

DONOVAN, LINCOLN D

ART UNIT PAPER NUMBER

2832

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/080,643

Applicant(s)
Kondoh et al.

Examiner
Lincoln Donovan

Art Unit
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 21, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) 5, 15-17, and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 18, and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of the restriction in Paper No. 6 is acknowledged. The traversal is on the ground(s) that various embodiments are not distinct from each other. This is not found persuasive because, as acknowledge in the specification, each of the embodiments incorporate differing switching structures.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4, 6-14 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 7, applicant should clarify the specific structure of the passage. Applicant should clarify the structure and mounting of the channel.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-14 and 18-19, as best able to be understood in view of the rejections under 35 U.S.C. 112, second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nathanson et al. [US 5,912,606] in view of Gutierrez et al. [US 6,501,354].

Nathanson et al. a latching switching device [figure 1A] comprising:

- an elongated surface having a length;
- first and second conductive support members [34, 36];
- a non-conductive channel [see figure 1A] mounted between the support members;
- a conductive liquid [30, 32] cooperating with the support members; and
- an energy driven latching member [figures 3A-3B] interacting with the conductive liquid.

Nathanson et al. disclose the instant claimed invention except for the conductive liquid being within a cavity.

Gutierrez et al. discloses a MEM liquid metal carrying system having a conductive fluid [column 3, lines 1-18] within a cavity [106].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the conductive liquid of Nathanson et al. mounted in a cavity, as suggested by Gutierrez et al., for the purpose of preventing unintentional switching.

The specific wettability of the conductive liquid would have been an obvious design consideration based on the desired switch sensitivity.

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The specific size of the passage/cavity would have been an obvious design consideration based on the switching voltages.

Conclusion

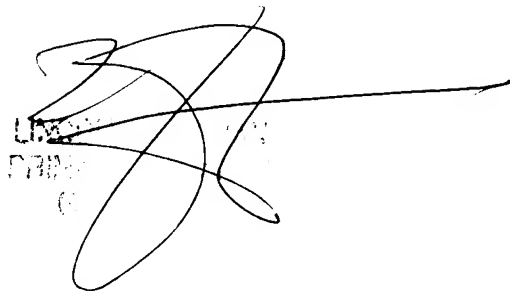
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lincoln Donovan whose telephone number is (703) 308-3111.

The fax number for this Group is (703)-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782.

LDD

June 2, 2003

A handwritten signature in black ink, appearing to be "Lincoln Donovan", is written over a faint, rectangular stamp. The signature is stylized with a large loop and a long horizontal stroke extending to the right.